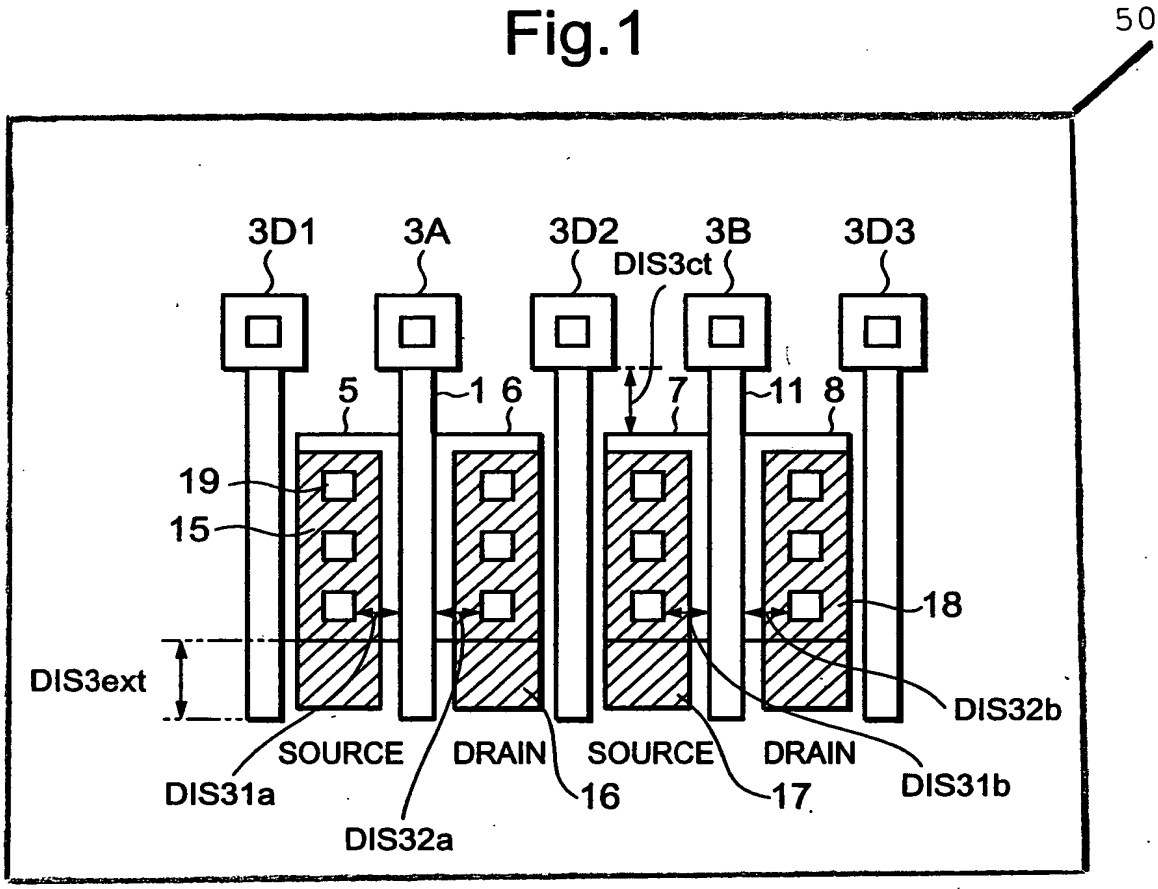
Fig.1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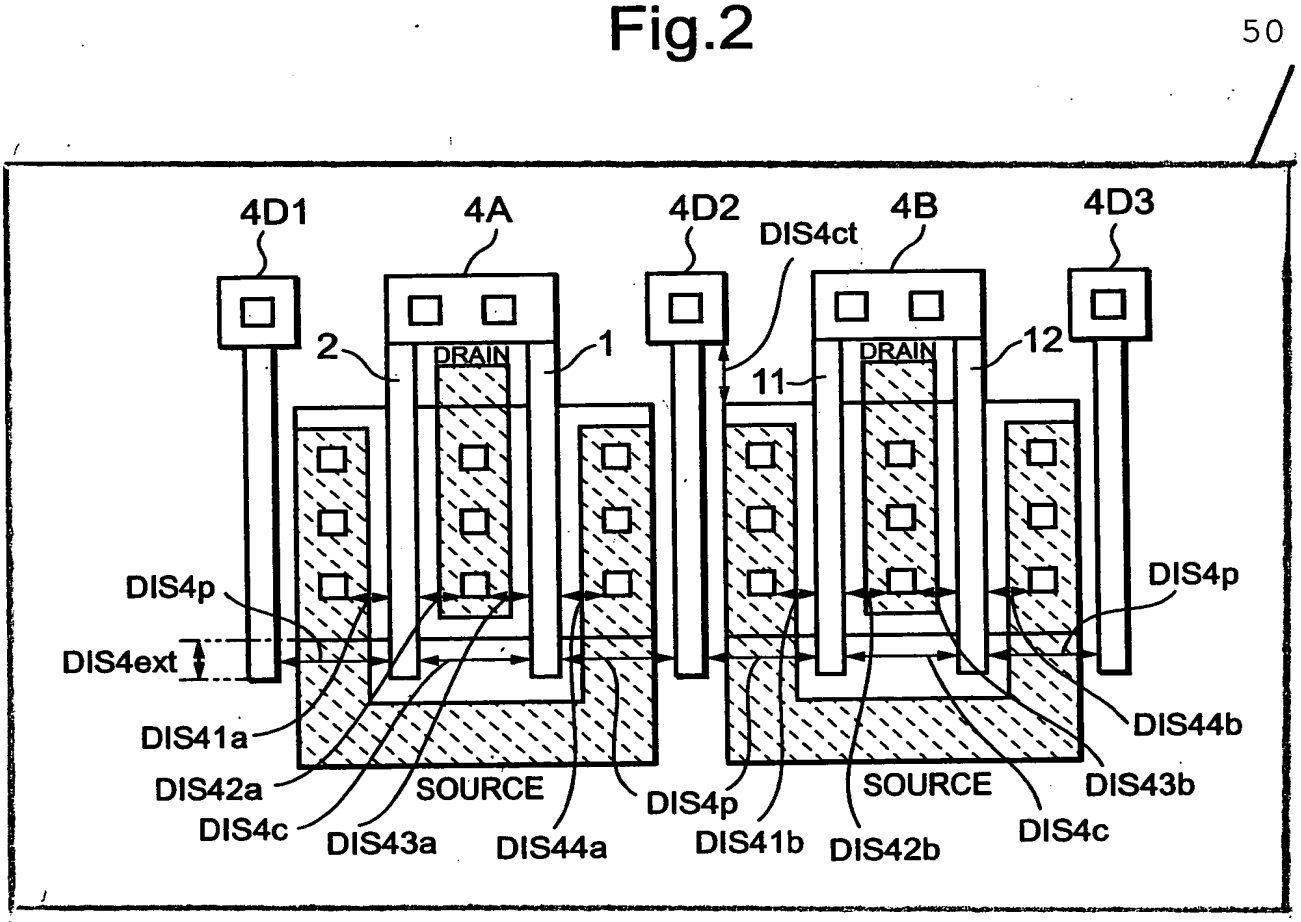
3D1
3A
3D2
3B
3D3
DIS3ct
5
16
7
11
8
19
15
18
DIS3ext
DIS32b
SOURCE
DRAIN
SOURCE
DRAIN
DIS31a
16
17
DIS31b
DIS32a

Fig.2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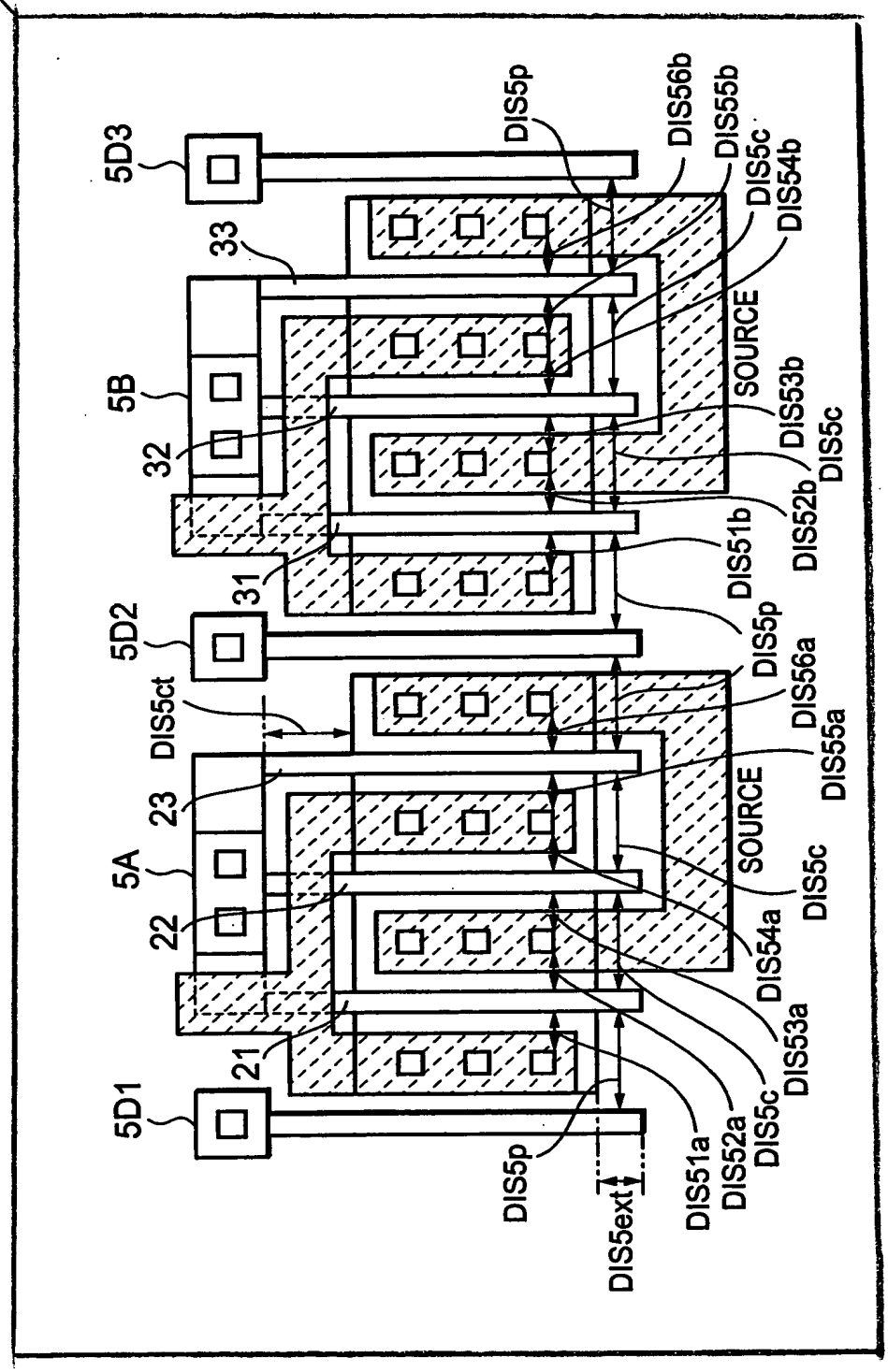
4D2
DIS4ct
4B
4D3
2
DRAIN
1
11
DRAIN
12
DIS4p
DIS4ext
DIS41a
DIS42a
DIS4c
SOURCE
DIS43a
DIS44a
DIS4p
DIS41b
SOURCE
DIS42b
DIS4c
DIS43b
DIS44b
DIS4p

Fig.3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5B
5D2
5A
5D1
33
32
31
23
22
21
DIS5p
DIS56b
DIS55b
DIS5c
DIS54b
SOURCE
DIS53b
DIS5c
DIS52b
DIS51b
DIS5p
DIS56a
DIS55a
DIS5ct
SOURCE
DIS5c
DIS54a
DIS53a
DIS5c
DIS52a
DIS51a
DIS5p
DIS5ext

Fig.4

[TABLE 1] EXPECTED W=10 μm
DISPERSION(Δ W=0.2 μm)
<AS ESTIMATED>

NUMBER OF GATES	(a) MASK-DESIGN VALUE	(b) DIS-PERSION (Δ W)	(c) ACTUAL GATE WIDTH	(d) SUM OF ACTUAL GATE WIDTHS
1	10.2	0.2	10	10
2	5.2	↓	5	10
3	3.54	↓	3.34	10.02
4	2.7	↓	2.5	10
5	2.2	↓	2	10
6	1.87	↓	1.67	10.02

[TABLE 2] EXPECTED W=15 μm
DISPERSION(Δ W=0.2 μm)
<AS ESTIMATED>

NUMBER OF GATES	(a) MASK-DESIGN VALUE	(b) DIS-PERSION (Δ W)	(c) ACTUAL GATE WIDTH	(d) SUM OF ACTUAL GATE WIDTHS
1	15.2	0.2	15	15
2	7.7	↓	7.5	15
3	5.2	↓	5	15
4	3.96	↓	3.76	15.04
5	3.2	↓	3	15
6	2.7	↓	2.5	15

[TABLE 3] EXPECTED W=10 μm
DISPERSION(Δ W=0 μm)
<ESTIMATION Δ W-0.2 μm>

NUMBER OF GATES	(a) MASK-DESIGN VALUE	(b) DIS-PERSION (Δ W)	(c) ACTUAL GATE WIDTH	(d) SUM OF ACTUAL GATE WIDTHS
1	10.2	0	10.2	10.2
2	5.2	↓	5.2	10.4
3	3.54	↓	3.54	10.64
4	2.7	↓	2.7	10.8
5	2.2	↓	2.2	11
6	1.87	↓	1.87	11.22

[TABLE 4] EXPECTED W=15 μm
DISPERSION(Δ W=0 μm)
<ESTIMATION Δ W-0.2 μm>

NUMBER OF GATES	(a) MASK-DESIGN VALUE	(b) DIS-PERSION (Δ W)	(c) ACTUAL GATE WIDTH	(d) SUM OF ACTUAL GATE WIDTHS
1	15.2	0	15.2	15.2
2	7.7	↓	7.7	15.4
3	5.2	↓	5.2	15.6
4	3.96	↓	3.96	15.84
5	3.2	↓	3.2	16
6	2.7	↓	2.7	16.2

[TABLE 5] EXPECTED W=10 μm
DISPERSION(Δ W=0.4 μm)
<ESTIMATION Δ W+0.2 μm>

NUMBER OF GATES	(a) MASK-DESIGN VALUE	(b) DIS-PERSION (Δ W)	(c) ACTUAL GATE WIDTH	(d) SUM OF ACTUAL GATE WIDTHS
1	10.2	0.4	9.8	9.8
2	5.2	↓	4.8	9.6
3	3.54	↓	3.14	9.42
4	2.7	↓	2.3	9.2
5	2.2	↓	1.8	9
6	1.87	↓	1.47	8.82

[TABLE 6] EXPECTED W=15 μm
DISPERSION(Δ W=0.4 μm)
<ESTIMATION Δ W+0.2 μm>

NUMBER OF GATES	(a) MASK-DESIGN VALUE	(b) DIS-PERSION (Δ W)	(c) ACTUAL GATE WIDTH	(d) SUM OF ACTUAL GATE WIDTHS
1	15.2	0.4	14.8	14.8
2	7.7	↓	7.3	14.6
3	5.2	↓	4.8	14.4
4	3.96	↓	3.56	14.24
5	3.2	↓	2.8	14
6	2.7	↓	2.3	13.8

Fig.5

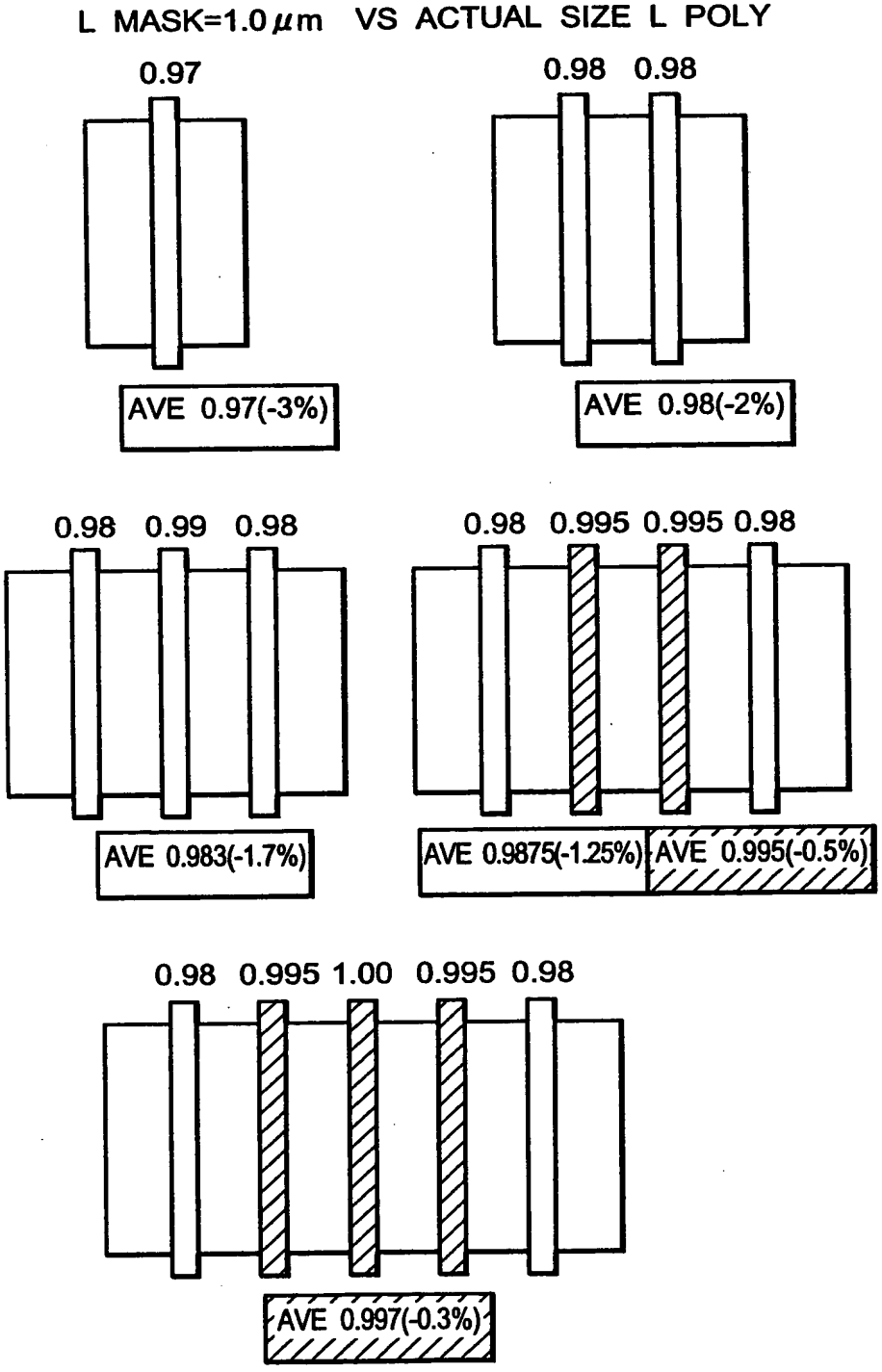
L MASK=1.0μm VS ACTUAL SIZE L POLY
0.97
AVE 0.97(-3%)
0.98 0.98
AVE 0.98(-2%)
0.98 0.99 0.98
AVE 0.983(-1.7%)
0.98 0.995 0.995 0.98
AVE 0.9875(-1.25%)
AVE 0.995(-0.5%)
0.98 0.995 1.00 0.995 0.98
AVE 0.997(-0.3%)

Fig.6 PRIOR ART

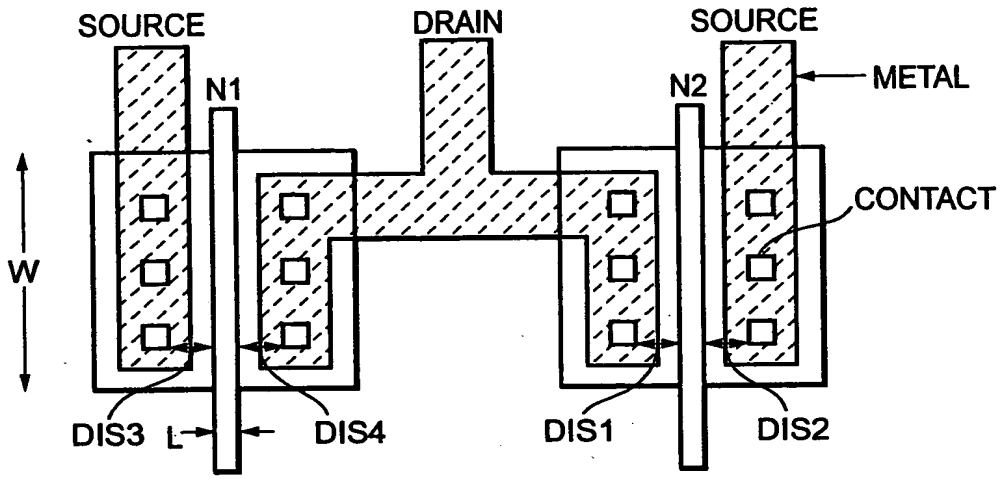

Fig.7 PRIOR ART

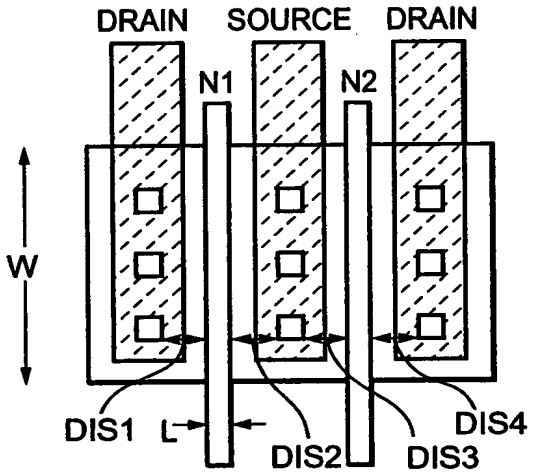
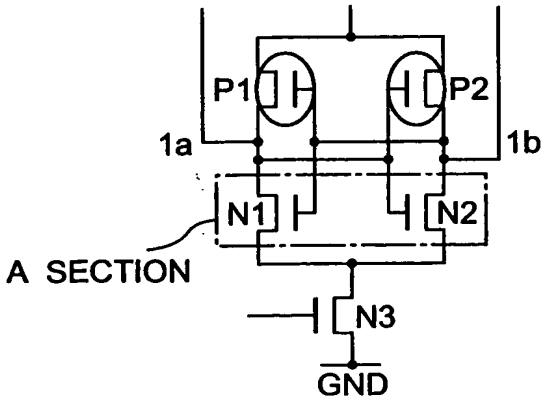
Fig.8 PRIOR ART